Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Wireless Telecommunications Bureau Seeks	)	Docket No. 18-353
Comment on Wireless Internet Service	)	
Providers Association and Utilities Technology	)	
Council Request for Waiver of the Citizens	)	
Broadband Radio Service Transition Deadline	)	

REPLY COMMENTS OF THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION AND THE UTILITIES TECHNOLOGY COUNCIL

Claude Aiken
President and CEO
Wireless Internet Service Providers Association
4417 13th Street #317
Saint Cloud, FL 34769

Brett Kilbourne
Vice President, Policy and General Counsel
Utilities Technology Council
1129 20th Street, NW, Suite 350
Washington, DC 20036

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SUMMARY

The record overwhelmingly supports granting the Petition to extend the deadline for existing licensees to transition their networks to comply with the Part 96 rules. Commenters agree with WISPA and UTC that there are unique circumstances outside of the control of the existing licensees – namely, delays in the launch of the Spectrum Access System ("SAS") and Environmental Sensing Capability ("ESC") and the corresponding lack of Part 96 compatible equipment – and strong public interest considerations including protecting consumers in rural areas that depend on WISPs for broadband and promoting smart grid for consumers and protecting investments by utilities. Those few parties that oppose the Petition ignore the clear problems ahead for incumbent licensees and raise specious arguments and speculative claims that extending the transition deadline will somehow obstruct or delay the roll-out of CBRS as a practical matter. The reality is that the requested extension of time is reasonable and will not delay CBRS in any way.

The Commission had expected that five years would be sufficient for licensees to transition to the new Part 96 rules, but it has taken much longer than expected for the SAS and ESC to be developed, and it is still uncertain when it will be operational. This has resulted in a lack of certified, commercially available Part 96 equipment, and there are no proxy controller devices that the Commission anticipated as an alternative means to interact with the SAS.

It is important to ensure that incumbents remain protected within their registered Grandfathered Wireless Protection Zones against interference from new GAA operations during the transition period. As the Commission is well-aware, utilities cannot tolerate the risk of interference during the transition period to mission critical communications carried over their existing 3.65 GHz systems. Likewise, WISPs need to protect their systems against interference during the transition period in order to maintain quality broadband services. Furthermore,

utilities and WISPs have made significant investments in their 3.65 GHz systems, with the record showing that millions of dollars have been invested in the 3.65 GHz band.

The record also overwhelmingly supports the request that the Commission allow existing licensees to use Part 90 equipment until January 8, 2023. As commenters explain, the lack of an equipment supply chain and associated resource issues make it impractical, if not impossible, for existing licensees to bring their operations into compliance with the Part 96 rules prior to the deadline. Delays in developing the SAS and ESC have delayed the certification of Part 96 equipment that can be upgraded or replace existing Part 90 equipment. Of the handful of devices that have been certified under Part 96 thus far, none of them are higher-power CPE-CBSDs needed for longer range fixed operations, such as the provision of broadband service in rural areas or critical infrastructure communications. On balance, it is far more equitable to grant a blanket waiver to extend the transition period for the Part 90 licensees in the 3.65 GHz band than it is to force them to meet a deadline that no longer appears achievable.

The requested extension of the transition period should have no practical effect at all on the ability of users to deploy on GAA. Regardless of whether the transition period ends in 2020 or 2023, users will be able to deploy GAA in the 3550-3650 MHz band – and should do exactly that, given the absence of commercial operations in the 3550-3650 MHz portion of the band and the larger FSS protection areas required under Part 90 rules. Petitioners desire and fully expect that their members will transition to Part 96 GAA operations and, by and large, continue to operate on the frequencies on which they had been grandfathered. This outcome will essentially make the remaining 100 megahertz of CBRS spectrum available to new GAA users prior to the effective date of PALs.

Finally, the record identifies a discrepancy in the Commission's rules that would affect the time during which GAA operations within 150 kilometers of all grandfathered FSS earth stations would be effectively prohibited if the waiver were to be granted. Either of the two solutions proposed by Interisle Consulting would provide existing 3.65 GHz licensees the additional time needed to transition to Part 96 operations while maintaining the current schedule for GAA access to 3650-3700 MHz spectrum in the vicinity of protected FSS earth stations. Accordingly, WISPA and UTC support these proposals and recommend that the Commission incorporate them into the requested waiver.

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Wireless Telecommunications Bureau Seeks Comment on Wireless Internet Service Providers Association and Utilities Technology Council Request for Waiver of the Citizens Broadband Radio Service Transition Deadline	)	Docket No. 18-353

REPLY COMMENTS OF THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION AND THE UTILITIES TECHNOLOGY COUNCIL

The Wireless Internet Service Providers Association ("WISPA") and the Utilities Technology Council ("UTC") hereby submit the following reply comments in the above-referenced proceeding.[1]

The record overwhelmingly supports granting the Petition to extend the deadline for grandfathered wireless incumbents to transition their protected areas and equipment to comply with the Part 96 rules. They agree with WISPA and UTC that there are unique circumstances outside of the control of the existing licensees – namely, delays in the launch of the Spectrum Access System ("SAS") and Environmental Sensing Capability ("ESC") and the corresponding lack of Part 96 compatible equipment – and strong public interest considerations including protecting consumers in rural areas that depend on WISPs for broadband and promoting smart grid for consumers and protecting investments by utilities. Those few parties that oppose the Petition ignore the clear problems ahead for existing licensees and raise specious arguments and speculative claims that extending the transition deadline will somehow obstruct or delay the roll-

[1] *Wireless Telecommunications Bureau Seeks Comment on Wireless Internet Service Providers Association and Utilities Technology Council Request for Waiver of the Citizens Broadband Radio Service Transition Deadline*, Public Notice, DA 18-1206 (rel. Nov. 27, 2018). *See also* WISPA UTC, Petition for Waiver of Sections 90.1307 (c) and (d) and Sections 90.1338(a) and (b) of the Commission's Rules, Docket No. 18-353 (filed Oct. 4, 2018) ("Petition").

out of CBRS as a practical matter. The reality is that the requested waiver is reasonable and will not delay CBRS deployment. Therefore, the Commission should expeditiously grant the Petition.[2]

Introduction

The members of WISPA and UTC constitute the vast majority of the incumbent licensees in the 3650-3700 MHz band ("3.65 GHz band") and they have made significant investments in their systems. There are over 7,000 incumbent locations registered in the Commission's Grandfathered Wireless Protection Zone ("GWPZ") database, most of which are registered by either utilities or wireless internet service providers ("WISPs").[3] They use these facilities to provide fixed broadband service in rural areas that would otherwise be unserved and smart grid applications that help to improve the safety, efficiency and reliability of electric, gas and water services to the public. They deployed these systems long before the Commission developed the rules for the 3.5 GHz band, including the transition period. In recognition of the investments that they made, the Commission created a five-year transition period (or for the remainder of the license term, whichever is longer) for these incumbents to comply with the new Part 96 rules.[4] In addition, the Commission attempted to protect these locations from interference by limiting

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[2] *See* 47 C.F.R. §1.925 (b)(3) (providing that the Commission may grant a request for waiver if it is shown that: (i) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; (ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.)

[3] *See* FCC Open Data of ULS 3650 MHz locations available at https://opendata.fcc.gov/Wireless/ULS-3650-Locations-Default-View/dpvg-tvcx ("GWPZ Database"). Note that this information represents only those locations that were registered and accepted by the FCC prior to the cut-off in August 2017. The actual number of existing systems is much larger. When the Commission adopted the CBRS rules in 2015, it stated that there were over 2,000 Part 90 incumbent licensees in this band with more than 25,000 registered sites. *See Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3700 MHz Band*, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959, 4075 (2015) ("*2015 CBRS Order*").

[4] *See id.* at 4075.

the 3.65 GHz band to Incumbent Access and General Authorized Access ("GAA") operations only and by providing priority for incumbent Part 90 operations over GAA operations in the band.

The Commission had expected that five years would be sufficient for licensees to transition to the new Part 96 rules, but as the Fixed Wireless Communications Coalition ("FWCC") predicted at the time (and as it has commented in this proceeding) the transition period is too short.[5] It has taken much longer than expected for the SAS and ESC to be developed, and it is still uncertain when they will be fully operational. This has resulted in a lack of certified, commercially available Part 96 equipment, and the proxy controller devices that the Commission had anticipated as an alternative means to "allow legacy network equipment to interact with the SAS at relatively low cost" have not materialized, nor are they likely to. As Centerpoint commented, this means that "the current lack of any retrofit technology that would render such systems compliant with the Part 96 CBRS rules, in fact, will require such systems to be prematurely replaced."[6] This will completely subvert the underlying purpose of the transition period, which was to preserve the investments by existing licensees in the 3.65 GHz band.

Accordingly, WISPA and UTC requested a limited waiver of the transition period to extend the deadline for existing systems to comply with the Part 96 rules. Specifically, WISPA and UTC requested that the Commission extend the deadline until January 8, 2023 for both licensees with registered GWPZs and newer, non-GWPZ equipment subsequently installed under

[5] Comments of the Fixed Wireless Communications Coalition, Docket No. 18-353 (filed Dec. 12, 2018), quoting Reply Comments of the Fixed Wireless Communications Coalition in GN Docket No. 12-354 at 5 (filed Aug. 15, 2014)(stating that "Any expectation that the SAS will be up and running within the five year transition period is probably unrealistic. In some respects the SAS system will resemble the TV White Space (TVWS) database …. The comparison with TVWS is relevant here because the [much simpler] TVWS system took fully ten years to become operational—not counting a great deal of work undertaken by TVWS proponents and the Commission prior to launch of the formal proceeding.").
[6] Comments of Centerpoint Energy, Inc., Docket No. 18-353 at 2-3 (filed Dec. 12, 2018).

Part 90 to transition to certified Part 96 equipment or, in the case of equipment to be software-upgraded, to Part 96 operation. In addition, and as described in more detail below, WISPA and UTC requested that the Commission extend the period for which the interference protections for GWPZs would continue to apply.[7]

It is important to understand that the Petition does not seek to apply interference protection to areas that are not registered GWPZs.[8] Instead, and as more fully described below, the Petition requests that only those locations registered in the GWPZ database be protected from GAA interference and that all Part 90 licensees have until January 8, 2023 to upgrade or replace their equipment in order to comply with Part 96 rules irrespective of their protection status. Contrary to the views expressed by CTIA and NCTA, the Petition does not seek to extend grandfathered protection status to all existing 3.65 GHz licensees.

I. THERE IS BROAD SUPPORT ON THE RECORD FOR GRANT OF THE PETITION

Numerous comments were filed in support of the Petition.[9] These parties agree that the transition period is not reasonable due to the unavailability of Part 96 equipment as well as the

[7] *See* Petition at 1.

[8] *See* Comments of CTIA, Docket No. 18-353 (filed Dec. 12, 2018) ("CTIA Comments") at 3 (stating that "the Petition seeks to apply interference protection rights to all registered network operations, not just those that qualified previously."); Comments of NCTA – The Internet and Television Association, Docket No. 18-353 ("NCTA Comments") at 6 (stating that "Petitioners seek to expand the class of devices protected under the grandfathering provisions to include 'all devices registered in ULS under Part 90, not just those that were covered by the grandfathering registration process.'"),

[9] *See, e.g.*, Comments of All Points Broadband, Amplex Electric, Arbuckle Communications, LLC, Atheral LLC, ATN International, Inc., Bertram Communications, Bolt Internet, BPS Networks, Bspeedy Wireless, Inc. Byhalia.net, LLC, California Internet, L.P. dba GeoLinks, Centerpoint Energy, Cloud Alliance LLC, The Community Agency, Conifer Communications, Crossroads Broadband, Inc., Columbia Energy, Eastern Indiana WiFI, Inc., E-vergent.com, LLC, Express Dial Internet, Inc., Fixed Wireless Communications Coalition, Fourway Computer Products, Home Town Network, Inc., Imagine Networks, Interisle Consulting Group, LLC, The Junction Internet, LLC, McMinnville Access Company, Mobilicomm, Q-Wireless, LLC, Mountain West Technologies, Rapid System, Inc., Rise Broadband, Rural 3650 Licensees, Signalnet Broadband, Inc., Slopeside Internet, LLC, Southern Ohio Communication Services, Inc., Texoma Communications LLC, Veopoint, Inc., Verso Networks, Volcano

ongoing delays with SAS and ESC development. Even if equipment does exist and the SAS is operable by the April 17, 2020, the cost of transitioning and supply chain issues, due to a domino effect constraining the availability of equipment and manpower to install the equipment, will be an undue burden for compliance.

Only a few parties opposed the Petition.[10] These commenters raise procedural arguments, claiming that requesting waiver is premature because the Commission will entertain individual waiver requests later. They also raise substantive arguments that the waiver would delay CBRS deployment. As more fully described below, these arguments lack merit because it would be an enormous waste of time and resources to require licensees to file individual waiver requests and for the Commission to process hundreds of requests, when they all could be dispensed with by granting a blanket waiver. Moreover, as a substantive matter, granting this blanket waiver is not going to have any impact on the roll-out of CBRS. GAA operations can continue to be deployed anywhere in the band, regardless of the waiver for existing licensees. They would only need to protect GWPZs and then only on a limited and temporary basis in up to 50 megahertz of the band. Meanwhile, critical infrastructure communications and broadband services by incumbents would continue to be provided. On balance, this is a far better outcome than what those opposing the Petition are arguing the Commission should do.

Telephone Company, West Michigan Wireless, Wisper ISP, Inc., Xcel Energy Services. Inc. and Zirkel Wireless, Docket No. 18-353 (filed Dec. 10-12, 2018). *See also* Reply Comments of the American Petroleum Institute, Docket No. 18-353 (filed Dec. 14, 2018).

[10] *See* CTIA Comments; NCTA Comments; and Comments of Federated Wireless, Inc., Docket No. 18-353 (filed Dec. 12, 2018) ("Federated Comments").

A. The Commission Should Extend Interference Protection For Grandfathered Licensees Within Their Registered GWPZs

It is important to ensure that existing licensees remain protected within their registered GWPZs against interference from new GAA operations during the transition period. As Xcel Energy stated, "it would serve the public interest to extend the transition time for incumbent licensees to ensure that critical utility operations are provided maximum protection against harmful interference and that existing 3.65 GHz band systems will not be interrupted by the expiration of the license before it can be converted to CBRS."[11] Likewise, Centerpoint explained that there are no GAA frequencies in the 3650-3700 MHz band that would support its operations beyond its license expiration on April 17, 2020, and "[t]hus, CenterPoint's core internal communications network may be vulnerable to harmful interference just sixteen (16) months from now, except in the unlikely case that GAA service, and its requisite systems become fully operational."[12] As the Commission is well-aware, utilities cannot tolerate the risk of interference to mission critical communications, such as those that are carried over Centerpoint's 3.65 GHz system. Hence, it is crucial that the Commission extend the deadline in order to protect critical infrastructure communications systems in the 3.65 GHz band.

It is important to underscore that Centerpoint, like many other utilities that deployed 3.65 GHz systems, has made significant investments in its system. Centerpoint uses this system to support its smart grid project, and it reported to the Commission in 2014 that its "specific investment in telecommunications infrastructure, operating primarily on the 3650-3700 MHz

[11] Comments of Xcel Energy at 5.
[12] Comments of Centerpoint Energy at 2.

band, has exceeded $125 million."[13] Utilities (as well as companies in the petroleum industry) have already made significant investments in the 3.65 GHz band.[14]

Likewise, WISPs need to protect their systems against interference in order to maintain quality broadband services. Many WISPs reported in their comments that they had migrated to the 3.5 GHz band to avoid interference in the 900 MHz and the 2.4 GHz unlicensed bands. For example, KWISP, a small WISP providing fixed wireless broadband service to more than 600 customers in small towns and rural areas in northern Illinois, reported that if it loses access to the 3.5 GHz band before it can transition its network to comply with the Part 96 rules, it will have to shut off customers. Like so many other parties that have commented in support of the Petition, KWISP has equipment that is WiMAX-based and cannot be software-upgraded to comply with the Part 96 rules. Like so many WISPs, KWISP provides service in rural areas where the installation work can't be performed in the winter, leaving even less time for them to comply with the Part 96 rules. Accordingly, extending the deadline for the transition period is a necessity in order for WISPs to continue to provide reliable broadband service.

WISPs also have made significant investments in their 3.65 GHz systems. One municipal WISP, The Community Agency, reported that it has invested $1 million in its 3.65 GHz system, and Rise Broadband, Wisper ISP, and W.A.T.C.H. TV Company were awarded millions of dollars through Universal Service Fund programs and are either already deploying or are planning to invest in 3.65 GHz systems to support their broadband build-out. These are just a

[13] *See* Letter to Marlene H. Dortch, Secretary, Federal Communications Commission, from Brett Heather Freedson, re: Ex Parte Supplemental Comments of CenterPoint Energy Houston Electric, LLC in GN Docket No. 12-354, filed Oct. 16, 2014. At the time of this letter, Centerpoint reported that the total capital expenditures on the smart grid deployment was $766 million, including $200 million in grants from the Department of Energy.

[14] *See* Letter to Donald Stockdale, Chief, Wireless Telecommunications Bureau, from James Crandall, Policy Analyst, Tax and Accounting Policy, American Petroleum Institute, Docket 18-353 (filed Dec. 14, 2018). Chevron is just one of the petroleum companies that is licensed in the 3.65 GHz band.

few examples; there are many other WISPs across the nation that operate systems in the 3.65 GHz band, representing millions of dollars in additional investment already made in the band.

In sum, extending GWPZ protection will ensure that the 7,000 registered locations that had an expectation of interference protection while transitioning their operations to GAA can retain that protection without the possibility of receiving interference from new GAA operations. That is what the Commission intended in 2015 and it should remain good policy today.[15]

B. The Commission Should Allow Incumbent 3.65 GHz Licensees To Use Part 90 Equipment Until January 8, 2023

The record overwhelmingly supports the request that the Commission allow existing licensees to use Part 90 equipment until January 8, 2023. As commenters explain, the lack of an equipment supply chain and associated resource issues make it impractical, if not impossible, for incumbents in the band to bring their operations into compliance with the Part 96 rules prior to the deadline. Despite their efforts to prepare, these delays are beyond their control. As described above, the delays in developing the SAS and ESC – which still await completion of lab testing, Initial Commercial Deployments and Commission certification – have had the domino effect of delaying the certification of Part 96 equipment that can be upgraded or can replace existing Part 90 equipment. In addition, logistically there simply isn't enough time to test and install equipment even if it does become available because licensees will struggle to compete with each other for the initial equipment that becomes available and the crews that may be necessary to undertake construction and installation. Certified Professional Installers will also need to be trained and approved; that process has not yet been initiated. The demand for

[15] WISPA and UTC are open to considering a date prior to January 8, 2023 as the date on which GWPZ protections expire, though transitional operation of Part 90 devices without such protection would be allowed until that date.

equipment and workers will compound the supply chain issues, making compliance with the Part 96 unduly burdensome.

On balance, it is far more equitable to grant a blanket waiver to extend the transition period for 3.65 GHz licensees than it is to force them to meet a deadline that does not appear achievable. Moreover, the public interest is better served by allowing existing licensees to put the spectrum to effective use by providing broadband to rural areas and by supporting the safe, reliable and secure delivery of essential energy services, as well as by preserving the investment that incumbents made in the band – beginning long before the band was ever considered for CBRS.

II. THE OPPOSITIONS FAIL TO DISPUTE THE "GOOD CAUSE" SHOWING THAT WAIVER IS JUSTIFIED

A. Licensees Will Be Unable To Comply With Part 96 Rules If The Commission Maintains The Existing Deadline

Some commenters contend that the Commission should not grant the requested waiver because, notwithstanding incumbent licensees' substantial investments and reliance interests, there is "no evidence that incumbent operators are unable to prepare for the implementation of the Part 96 rules or that they will be unable to do so before the transition period ends."[16] In an effort to support of this proposition, CTIA cites WISPA's comments from December 2017 in which WISPA produced evidence showing that more than 60 percent of its members responding to a survey had invested in software-upgradeable equipment that can operate throughout the CBRS band.[17] But CTIA's "evidence" does not support its claims.

[16] *See* CTIA Comments at 8.
[17] *Id.*

First, although 63 percent of the survey respondents reported investing and deploying in reliance on the rules the Commission adopted in 2015, that leaves 37 percent of the respondent that did not. And of the 63 percent, it is possible, if not likely, that WISPs built out to new areas with software-upgradeable equipment, but that parts of their networks operate on Part 90 equipment that is not software-upgradeable and must be changed out. Even if equipment was expected to be software-upgradeable, until Part 96 certification is completed, the ability to operate that equipment under Part 96 rules is only speculative. Due to stringent technical requirements, particularly adjacent-channel emissions, some equipment may not be upgradeable after all, or may only be upgraded to a much lower operating power level than is allowable under Part 90.

Second, CTIA fails to cite other compelling evidence from the WISPA survey – namely, that more than 60 percent of those that had made investments in reliance on the 2015 rules had curtailed those investments based on the threat of changes to the CBRS rules instigated by CTIA that led to the recent adoption of the *2018 CBRS Order*.[18] Those rules replaced census tract licensing with county licensing for Priority Access Licenses ("PALs"), which are larger than the areas that WISPA's and UTC's members desire to serve and thus make PALs less accessible when the Commission auctions PALs. As a result, fewer existing licensees have deployed software-upgradeable equipment, making the waiver necessary to a greater number of licensees.

CTIA and T-Mobile also argue that the Petition is essentially premature because Part 96 equipment is available and more certifications are expected in the coming months.[19] Here again,

[18] *See Promoting Investment in the 3550-3700 MHz Band*, GN Docket No. 17-258, FCC 18-149 (rel. Oct. 24, 2018) ("*2018 CBRS Order*")

[19] CTIA Comments at 8. Comments of T-Mobile USA, Inc., Docket No. 18-353 (filed Dec. 12, 2018) ("T-Mobile Comments") at 4-5. CTIA suggests that language in the *2015 CBRS Order* exempts Part 90 licensees from the equipment operability rule so that existing licensees can continue to operate under the new Part 96 rules. *See* CTIA Comments at 8 n.26, *quoting 2015 CBRS Order* at 4075. But, Section

CTIA's broad statements do not withstand scrutiny. Although it is true that a handful of devices have been certified under Part 96, only one (FCC ID ARA-CMP1K3X96) is a device that was previously certified to operate under Part 90 rules (FCC ID ARA-COMPACT3X).[20] As a result, only those licensees that have deployed that Part 90 equipment can, at this time, take comfort in the fact that they will not need to change their hardware, a task that involves climbing towers to change access points and rolling trucks to replace customer premise equipment ("CPE").

Further, mobile operations will typically make use of handsets, which operate as EUDs, but fixed operations cover much longer ranges, which will require higher power levels, meaning that CPE will need to be authorized as CBSDs (referred to as CPE-CBSDs). At this time, there are no certified CPE-CBSDs because the procedures for their operation are not yet finalized and not been publicized in the FCC's Knowledge Database. It is unlikely that any such devices will be certified until late 2019, and it will no doubt take longer for the bulk of existing upgradeable Part 90 devices to be certified. Even so, as discussed above, a large share of devices, especially those deployed prior to 2015, use WiMAX, which is obsolete, and other air interfaces that cannot be software-upgraded to operate under Part 96, and thus will require replacement. In the meantime, licensees may be reluctant to purchase replacement a base station or CPE until they know that it has been certified under Part 96, even if they can temporarily operate it under Part 90.

T-Mobile doubles down on its mischaracterization in arguing that "even if the grandfathered licensees cannot act to deploy the Part 96 equipment that is now available, they

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96.39(b), which codifies the exemption, exempts CBSDs only from the requirement that they "must be capable of two-way operation on any authorized frequency assigned by the SAS." It does not exempt grandfathered licensees from other requirements, including the requirement that the equipment be re-certified to operate with the SAS and meet the more stringent emission requirements of Part 96.

[20] Two of the devices are high-powered mobile base stations. Others are low-power base stations intended for indoor or venue operation, or End User Devices ("EUDs").

can participate in the GAA ecosystem using their current equipment."[21] That is simply not the case. Equipment used under Part 96 must go through rigorous testing and certification processes. The sole concession, on which T-Mobile hangs its argument, is that devices previously approved under Part 90 are not required to be able to operate below 3650 MHz once they are recertified as Part 96 devices. However, by now, most such devices are older models and many are unlikely to receive any vendor support. Part 96 has a much more stringent emission mask than Part 90, also limiting the ability to upgrade.

B. Licensees Cannot Deploy Proxy Controller Devices

T-Mobile, CTIA and Federated Wireless suggest that existing 3650-3700 MHz licensees can use domain proxy controller devices to transition their equipment to Part 96.[22] This argument is predicated on the Commission's belief in 2015 that "[t]he vast majority of equipment deployed in the 3650-3700 MHz band uses the WiMAX technology standard" which "defines network management interfaces that allow for operator control of network operating parameters."[23] While some WiMAX devices may conceivably transition to Part 96 certified equipment through a proxy controller, in practice this has not occurred for sound technical and business reasons. As the mobile carriers are well aware, WiMAX is an obsolete standard and any WiMAX equipment is unlikely to gain much new investment. Further, its poor latency characteristics also make it a very poor choice for ongoing deployment given the reduced latency

[21] T-Mobile Comments at 5. T-Mobile's apparent lack of appreciation for incumbents and the thousands of customers they serve is revealed through its statement that "the Commission went out of its way to ensure that Part 90 licensees could continue to operate their equipment under the Part 96 rules after the transition period ends." *Id.* The Commission did not "go out of its way" – it understood the investment and deployments in the 3650-3700 MHz band since 2008, long before T-Mobile expressed any interest at all in the band, and found a way to merge the Part 90 and new Part 96 regimes.
[22] *See* T-Mobile Comments at 6; CTIA Comments at 8; Federated Comments at 6 (licensees "do not need to replace their existing equipment, but rather to deploy middleware as a Domain Proxy.").
[23] *See 2015 CBRS Order* at 4075.

that consumers are demanding (and on which the mobile carriers' 5G plans rest). Its higher latency also limits real-time consumer applications.

For a device to be operated as a CBSD with a domain proxy, the equipment certification must be granted for the *combination* of the radio equipment and its domain proxy as the unit under test. The domain proxy alone does not confer certification on a radio. And for a domain proxy to work, the radio must have a control plane interface to the domain proxy that provides *all* of the capabilities required for a CBSD. It is just as easy, if not easier, for manufacturers to upgrade devices to full standalone CBSD status as it is for them to use a domain proxy. Moreover, a domain proxy is more likely to be useful for large mobile networks whose eNodeBs are built to use mobile industry standard interfaces; these are not found on most radios used in the 3.65 GHz band under Part 90.

C. Grant Of The Waiver Will Not Obstruct Or Delay GAA Deployment

Also unavailing are dire predictions that grant of the Petition "would severely hamper the widespread introduction of GAA CBRS in the band"[24] or "delay the significant progress that has recently been made in the band…."[25] In fact, the extension of the transition period should have no practical effect at all on the ability of users to deploy on GAA. Regardless of whether the transition period ends in 2020 or 2023, users will be able to deploy GAA in the 3550-3650 MHz band – and should do exactly that given the absence of commercial operations in the 3550-3650 MHz portion of the band and the larger FSS protection areas required under Part 90 rules.[26] Contrary to NCTA's conjecture,[27] it would be imprudent for new GAA users to deploy initially

[24] CTIA Comments at 1. *See also id.* at 11.
[25] T-Mobile Comments at 2.
[26] *See* Comments of Wisper ISP, Inc., Docket No. 18-353 (filed Dec. 12, 2018) at 2.
[27] *See* Comments of NCTA – The Internet and Television Association, GN Docket No. 18-353 (filed Dec. 12, 2018) at 7-8. NCTA also suggests, without support, that one of its members estimates that grandfathered licensees "encumber" between 25 and 85 percent of the POPs in fifteen markets. *Id.* at 8.

in the 3650-3700 MHz band when 100 megahertz of cleaner spectrum in 3550-3650 MHz is available, and even more unwise for users to design GAA operations in 3650-3700 MHz that would cause harmful interference to WISPs, utilities and others that are serving customers in that band, irrespective of whether the operations are entitled to interference protection. However, Petitioners recognize that after the PAL auction is complete and PAL Protection Areas can be defined, GAA access to the 3550-3650 MHz portion of the band may become much more constrained. Thus, the Petitioners are open to allowing the GWPZ protections to expire at that time, so that sufficient GAA spectrum remains available everywhere.

In sum, Petitioners desire and fully expect that their members will transition to Part 96 GAA operations and, by and large, continue to operate on the frequencies on which they have been grandfathered. This outcome will essentially make the remaining 100 megahertz of CBRS spectrum available to new GAA users, at least until PAL protection areas are established in no more than 70 megahertz. Suggestions that the requested waiver will undermine the initiation of GAA services are simply overstated.

III. THE COMMISSION SHOULD HARMONIZE THE RULES FOR FIXED SATELLITE SERVICE EARTH STATION PROTECTION

In their responses, two commenters identify a discrepancy in the Commission's rules that was not addressed in the Petition; specifically, the protection of grandfathered fixed satellite service ("FSS") earth stations.[28] Pursuant to Section 96.21(c), where a Grandfathered Wireless Broadband Licensee is registered within 150 kilometers of a grandfathered FSS earth station

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Of course, this grandfathered spectrum use covers, at most, only the 3650-3700 MHz band and is being used to serve consumers. There is nothing in the Commission's rules preventing the NCTA member from approaching grandfathered licensees and discussing the right to use a portion of the grandfathered 3650-3700 MHz spectrum on a consensual basis.

[28] Federated Comments at 3-4; Comments of Interisle Consulting Group, Docket No. 18-353 (filed Dec. 12, 2018) ("Interisle Comments") at 3-4.

operating in the 3650-3700 MHz band, the SAS must enforce a 150 kilometer exclusion zone around the FSS earth station until all of the grandfathered Part 90 licenses with device registrations within the FSS earth station's protection zone have expired.[29] As Federated Wireless and Interisle Consulting point out, this means that the grant of the requested waiver would effectively prohibit GAA operations within 150 kilometers of all grandfathered FSS earth stations.[30] While Federated Wireless views this as a reason to deny the requested waiver in its entirety, Interisle Consulting proposes two practical alternative solutions.

The first solution that Interisle Consulting proposes is to simply allow the static protection zones under Section 96.12(c) to expire along with the current expiration dates of the grandfathered Part 90 licenses while permitting existing licensees to continue their Part 90 operations in these zones through January 8, 2023.[31] This would permit the 150 kilometer exclusion zones to be phased out and GAA operations to begin within these areas under the schedule currently in place.[32] As an alternative, Interisle Consulting proposes allowing the SAS to begin to authorize operations within the exclusion zones after April 17, 2020, subject to a temporary reduction of 3 dB in the applicable interference thresholds under Section 96.17.[33] This temporary reduction in the interference thresholds would then expire at the end of the extended transition period requested in the Petition.

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[29] 47 C.F.R. § 96.21(c). Specifically, this rule states that Grandfathered Wireless Broadband Licensees and CBRS users must protect authorized grandfathered FSS earth stations in accordance with the protection criteria set forth in Part 90 of the rules (which establishes a 150 km exclusion zone around each FSS earth station) "until the last Grandfathered Wireless Broadband Licensee's license expires within the protection area for a particular grandfathered FSS earth station." *Id.*; *See also* 47 C.F.R. § 90.1331. The rule states that, thereafter, grandfathered FSS earth stations will be protected under § 96.17, which establishes specific technical criteria for CBRS operations within 150 km of a grandfathered FSS earth station rather than excluding such operations entirely. 47 C.F.R. § 96.21(c); *see also* 47 C.F.R. § 96.17(a).

[30] *See* Federated Wireless Comments at 3-4; Interisle Comments at 3-4.

[31] Interisle Comments at 4.

[32] *Id.*

[33] *Id.*

Either of Interisle Consulting's proposed solutions would provide existing licensees in the 3.65 GHz band the additional time needed to transition their operations to the Part 96 CBRS rules while maintaining the current schedule for GAA access to 3650-3700 MHz spectrum in the vicinity of protected FSS earth stations. Accordingly, WISPA and UTC support these proposals and recommend that the Commission incorporate them into the requested waiver.

Conclusion

The record makes clear that the Commission should waive its rules to permit grandfathered 3.65 GHz licensees to continue to have interference protection within their registered GWPZs until January 8, 2023 and to permit 3.65 GHz licensees to have until that date to deploy Part 96 equipment irrespective of their grandfathered protection status. To require individualized waiver requests would, in the face of the record showing the impending domino effect resulting from certification and equipment delays and resource constraints, waste the Commission's resources. Claims that waiver is premature and will block or delay GAA service do not counter the reality that GAA should develop first in the 3550-3650 MHz band, not in the band where commercial operations are ongoing. Finally, the Commission should take this opportunity to harmonize its Part 90 and Part 96 FSS protection standards.

Respectfully submitted,

/s/ Claude Aiken
President and CEO
Wireless Internet Service Providers Association
4417 13th Street #317
Saint Cloud, FL 34769

/s/ Brett Kilbourne
Vice President, Policy and General Counsel
Utilities Technology Council
1129 20th Street, NW, Suite 350
Washington, DC 20036

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